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adelphia there is no other specimen of the form above described, and it is presumable that this weapon was one seldom fashioned in North America, and its occurrence seems better explained by considering it rather as an independent invention of its original owner, than a copy of the favorite arm of another people. — C. C. ABBOTT, M. D.

GEOLOGY AND PALÆONTOLOGY.

ICEBERGS OFF THE COAST OF NEWFOUNDLAND. — On the coast of Newfoundland, icebergs generally make their appearance about the 1st of January. Their approach is heralded by a number of smaller pieces. When we reflect upon the origin of these bergs, it would appear that the greater number of them ought to be disengaged from their parent mass, the glacier, in summer-time. The semi-fluid mass of which the glacier is made up, creeping slowly, like a frozen river, down the valley, by the aid of heat, gravity, etc., has in summer-time its pace augmented by the increment it receives at this season of the year. It then pushes itself rapidly forward into the ocean, and there, by the buoyancy of the water, the projecting ice-mass is detached and floated off. Why, therefore, is it that the bergs are not seen off the coast of Newfoundland at the close of the summer, or at latest in the "fall" of the year? The answer to this may be obtained from the inference of Sir Edward Belcher and other arctic navigators, who tell us that in very high latitudes the ice appears to be in motion much earlier than it is farther to the south. On the 20th of May the western side of Smith's Sound has been found to be quite open for navigators in a boat, whilst Barron Strait is not navigable till late in August. The consequence of this would appear to be that whatever ice may be set free far north early in the year is detained in more southern latitudes until the fall. Another cause also operating in keeping the ice off the coast until the spring of the year may be the wind. Although icebergs, with regard to their motion and the direction of the wind, often present curious anomalies, yet these must to a slight degree be influential on their wanderings. In the fall of the year the prevalent winds on the North American side of the Atlantic are, generally speaking, from the west, which tend to keep all bergs out at sea, and thus to observers on the land they would be lost sight of; but in the spring of the year the winds are more or less northerly, which would only aid the current in bringing the ice along shore. The most apparent suggestion for the detention of the ice before reaching the shores of Labrador and Newfoundland is of course the distance it has to travel; but considering the steady rate at which this is carried on in the stream which bears it, the effects of wind and the delay in the breaking up of the southern arctic barrier must have the precedence. — *J. Milne in the Geological Magazine, July.*

RECENT VIEWS IN GEOLOGY. — Mr. John Evans, in his late address as president of the Geological Society of London, after giving obituary notices of Sir Charles Lyell, Mr. Scrope, Deshayes, and others, discusses recent phases of geological thought, and after speaking of the bearings of solar physics on the early history of our planet, refers to the glacial epoch, for the production of which he insists on a change in the geographical position of the earth's axis, and claims that it is premature to invoke intense glacial periods to account for all the glacial phenomena which may be observed. "Much as we must esteem the labors of M. Ahémar and Mr. Croll, and others who have gone so deeply into the question of glaciation, — enormous as have been the effects of ice in this and other countries, — there are many who cannot but feel that the ice-caps invoked almost transcend our powers of belief, and who will be grateful to any astronomer or mathematician who will bring the pole round which they were generated somewhat nearer to our doors."

He prophesies that "the great work of future palæontologists will rather lie in still further developing the affinities of genera, than in merely recording the minute distinctions of species. The discoveries which have of late been made have a tendency to fill in the missing links in the chain of organic nature, and to lead to the adoption of some form of that great doctrine of evolution which has received so large an amount of support from a former occupant of this chair, to whom we have this day presented the Wollaston Medal, Professor Huxley. It is highly probable that much more will be done in the same direction. In addition to what has been effected by Mons. Albert Gaudry in his researches on the fossils of Pikermi and Mont Léberon, and by Dr. W. Kowalevsky in his investigations of the osteology of the Hyopotamidæ, the discoveries of Professors Marsh and Leidy in America are doing much toward illustrating the line of descent of many of the higher mammalia."

A CARNIVOROUS REPTILE ABOUT THE SIZE OF A LION. — Professor Owen describes and figures in the *Quarterly Journal of the Geological Society*, the remains of a carnivorous reptile from the Karoo Lake deposits of South Africa. It is called *Cynodraco major*, and for this type, with a number of other extinct carnivorous saurians, he forms a distinct order of reptiles under the name *Theriodontia.* In concluding his paper, Professor Owen inquires whether the transference of structures from the reptilian to the mammalian type has been "a seeming one, delusive, due to accidental coincidence in animal species independently (thaumatogenously) created, or was the transference real, consequent on nomogeny or the incoming of species by secondary law, the mode of operation of which we have still to learn? Certain it is that the lost reptilian structures dealt with in the present paper are now manifested by quadrupeds with a higher condition of cerebral, circulatory, respiratory and tegumentary systems, the acquisition of which is not intelligible to the writer on either the Lamarckian or the Darwinian hypothesis."

GEOLOGICAL SURVEY OF CANADA. — The Report of Progress for 1874–75, besides the introductory report by Mr. Selwyn, the director of the survey, contains reports on the country west of lakes Manitoba and Winnipegosis, with notes on the geology of Lake Winnepeg, by Mr. Robert Bell; a report on the country between the Upper Assineboine River and lakes Winnipegosis and Manitoba, by Mr. J. W. Spencer; a report of much general interest on explorations in British Columbia, by Mr. James Richardson; and a report on geological observations in New Brunswick in 1874, by Prof. L. W. Bailey and Mr. G. F. Matthew. Other reports of economic interest follow. The staff of the director consists of ten geological explorers, and the total annual appropriation for this important survey is only $45,000, "a sum not greater than is granted for similar purposes by many single States in the neighboring Union."

THE WALRUS FORMERLY IN SOUTH CAROLINA. — In a collection of fossil bones from the Ashley phosphate beds near Charleston, S. C., Dr. Leidy identifies a complete tusk of the walrus, indicating a still farther point south for the extension of this animal than had been previously known, Virginia (at least Martha's Vineyard) having been, we believe, the farthest point southward where it had previously been found. Associated with this tusk were the skull of a manatee, a tooth of the Megatherium, and the bones of a number of new species of cetaceans, among them a huge tooth of a form allied to the sperm whale, and probably the same as those from the Crag formation of Antwerp, ascribed to Dinoziphius.

MORE FOSSIL BIRDS. — The bones of two species of a bird like the diver, and also with affinities to Professor Marsh's cretaceous genus *Hesperornis*, have been discovered by Professor Seeley in the chalk formation of England.

GEOGRAPHY AND EXPLORATION.

NEWS FROM STANLEY. — This enterprising explorer, after a long silence, during which much anxiety had been felt about him, writes from the district of Ujiji on Lake Tanganyika. The letters received and published in the *New York Herald*, are five in number, and contain a narrative of Stanley's voyages, land journeys, and adventures from June, 1875, when he was last heard from, to April 26, 1876, when he was within fifteen days' march of Ujiji. The first, written July 29, 1875, gives an account of his voyage from M'tesa's capital to his camp at the southern end of Victoria Lake, near the Shimeeyu River. He not only encountered violent and dangerous storms, but he and his party narrowly escaped massacre at the hands of the savage natives of Bumbireh, a large island on the western side of the lake. The second letter, written seventeen days later, describes his return, with his whole party, to Uganda (M'tesa's kingdom), and the punishment inflicted on the savages of Bumbireh by the way. An interval of five months elapsed before his third letter was written. During this period, by the friendly aid of